

**Dillard College of Business Administration**  
**SYLLABUS: Special Topics in MIS**  
**Managerial Perspective of Analytics**  
**MIS 4663, Section X20, Spring 2025**

---

**Contact Information**

Instructor: Dr. Grace Zhang, Professor of Management Information Systems

Office Hour: DB 287A, MW 9:30 -11:30 am, TR 11:00 am -12:00 pm, or by appointments

Texting or Cell: (206)-724-1509

Email: [grace.zhang@msutexas.edu](mailto:grace.zhang@msutexas.edu)

**Course Materials:**

- *Business Intelligence, Analytics, Data Science, and AI*, 5th edition, by Ramesh Sharda, Dursun Delen, Efraim Turban. Pearson Publishing.
- Lecture notes and other materials will be provided in class and on D2L. D2L is the primary communication channel for the course.
- Altair AI Studio (formerly RapidMiner Studio) is required for hands-on assignments. RapidMiner Studio can be downloaded for free with a one-year **educational** license. Please use your .edu email address to sign up at: <https://my.rapidminer.com/nexus/account/index.html#signup>. Please make sure you check the purpose radio button of “**Educational Purpose**.” Please make sure you have a proper device to work with the software. Note that Chromebook will NOT be able to accommodate this software.

**Course Description:**

Topics vary. May be repeated with different content.

This course presents the business-related impact of artificial intelligence, data science, and analytics. Emphasis is provided on the illustrating capabilities and justifications of business analytics.

**Course Prerequisite:**

Management (or Business Analytics) Information Systems major or minor, or consent of the instructor.

**Learning Goals**

**General Learning Goals:**

- **Problem-Solving and Decision Making.** Hands-on assignments and a project will be assigned. These assessments require students to utilize technology to gather relevant

formation and practice-related data analysis. These graded assessments are a portion of the overall course grade.

**Technology Utilization.** Extensive use of technology is throughout the course. AI Studio (RapidMiner Studio) will be the primary coverage. Students will also demonstrate their ability to use typical business computer applications by utilizing Microsoft applications and generative AI applications.

These general learning goals are among those established by the Dillard College of Business Administration. General learning goals represent the skills that graduates will carry into their careers. While assessing student performance in obtaining these general learning goals, Dillard College is assessing its programs. The assessments will assist us as we improve our curriculum and curriculum delivery.

- **Course-Specific Learning Goals:** After completing this course, students should be able to:
  - Know the basic concepts of Business Intelligence, Analytics, Data Science
  - Know the basic concepts of Artificial Intelligence, Robotics, and Smart Systems
  - Learn about descriptive analytics regarding the nature of data and statistics modeling
  - Understand the importance of business intelligence and data visualization
  - Learn the standardized data mining processes
  - Learn different methods and algorithms of data mining for predictive analytics
  - Understand the process of text and web analytics
  - Know the basic types of deep learning and cognitive computing
  - Understand the applications of prescriptive analytics techniques using optimization and simulation
  - Learn the landscape of software tools and languages used for analytics
  - Know the AI-based trends in analytics and data science
  - Understand ethical, privacy, and managerial considerations in Analytics

## **Course Policies**

**Missed Examination, Assignments, and Class Activities Policy:** An ample time window will be provided to take exams, finish online activities, and submit assignments. Written verification is mandatory for late or missing work. The instructor must be contacted by the day of the scheduled activity, or NO makeup will be allowed. A deduction may be assessed for a late exam or assignment at the instructor's discretion.

**Grading and Evaluation:** Students' performance will be assessed using the following elements.

1. **Exams (3):** D2L Exams cover assigned chapters and class activities. Students are responsible for all posted materials, even if they are not directly discussed in class.
2. **RapidMiner online learning hands-on:** Online learning videos for hands-on exercises are required every week using RapidMiner Studio. Students are responsible for walking through the learning demonstrations. There is also a certification test at the end of the semester. Please make sure you also sign up for an account on RapidMiner Academy to track your progress:  
<https://academy.rapidminer.com/>
3. **AI-Assisted Project:** Students conduct a predictive analytics project by leveraging AI tools (such as ChatGPT, Microsoft Copilot, and Google Gemini, among others) to assist with workflow planning, creating appropriate RapidMiner analysis visuals and processes, and interpreting analysis results with business insights. More details are provided in "Project Requirements" on D2L.
4. **Attendance and Participation:** Absences will be excused only for approved school trips and severe health issues. Online activities are required, discussions are highly encouraged, and active participation in learning is encouraged.

Points will be allocated using the following scheme.

Element	Points	Grades will be assigned using the following scheme.	
Exam (3)	40	A	90-100
RapidMiner Online Learning	30	B	80-89
AI-Assisted Project	20	C	70-79
Attendance and Participation	10	D	60-69
Total Points	100	F	<=59

### Academic Integrity

Students are referred to as the "Student Honor Creed" of the Midwestern State University Graduate Catalog regarding academic honesty. Academic dishonesty (cheating, collusion, and plagiarism) is taken seriously and will be investigated. The minimum penalty is an "F" in this course and referral to the Dean of Students for disciplinary action, resulting in expulsion from the University. **All assignments and exams are expected to be done with integrity. Sharing computer files to assist another student is considered a violation of academic integrity for BOTH students.**

### Americans with Disabilities Act

Suppose a student has an established disability defined in the Americans with Disabilities Act and would like to request an accommodation. In that case, that student should please contact me as soon as possible (i.e., within the first two weeks of the semester). Refer to

my office hours and phone number, which are shown on page 1. This class follows the guidelines suggested by the Center for Counseling and Disabilities Services for those students who qualify for disability services. Please refer to the details in the Midwestern State University Graduate Catalog.

### **Campus Carry**

Senate Bill 11, passed by the 84th Texas Legislature, allows licensed handgun holders to carry concealed handguns on campus, effective August 1, 2016. Areas excluded from concealed carry are appropriately marked, following state law. For more information regarding campus carry, please refer to the University's webpage. If you have questions or concerns, please contact MSU Police Department.

### **Midterm Progress Report**

To help students keep track of their progress toward course objectives, I might provide a "Midterm Progress Report" through the student's WebWorld account. The reported grade will be ONLY for at-risk students identified around the Midterm. The midterm grades will not be reported on the student's transcript, nor will they be calculated in the cumulative GPA. They give students an idea of where they stand at the semester's midpoint. Students earning below a C at the midway point should schedule a meeting with the professor to plan for improvement during the rest of the semester.

### **Syllabus Change Policy**

This syllabus is a guide for the course and is subject to change. It is not a contract. Syllabus changes will be communicated by notification on D2L and may or may not result in document changes. The student's sole responsibility is to find out if anything affecting the course requirements has changed. **Please check D2L and school emails regularly!**

**Tentative Schedule:** Please keep this syllabus as a reference!

Week	Date	Day	Chapter	In Class Topic	RapidMiner Online Assignments
1	20-Jan	Mon		Course Introduction, AI Studio Installation, Syllabus Reivew	Syllabus Quiz, Self Introduction
2	27-Jan	Mon	1	An Overview of Business Intelligence, Analytics, and Data Science	RapidMiner Account Set Up and AI Studio Installation
3	3-Feb	Mon	2	Artificial Intelligence, Robotics, and Smart Systems	Machine Learning (ML) - Welcome
4	10-Feb	Mon	3	Descriptive Analytics I: Nature of Data, Big Data and Statistical Modeling	ML Course - Intro to ML (part 1)
5	17-Feb	Mon	4	Descriptive Analytics II: Business Intelligence, Data Warehousing, and Visualization	ML Course - Intro to ML (part 2)
6	24-Feb	Mon		<b>Exam 1 - Chapters 1 - 4 and RapidMiner (AI Studio)</b>	
7	3-Mar	Mon	5	Predictive Analytics I: Data Mining Process, Methods, and Algorithms	ML Course - Supervised Learning (part 1)
8	10-Mar	Mon		<b>Spring Break</b>	
9	17-Mar	Mon	6	Predictive Analytics II: Text, Web, and Social Media Analytics; Project Deliverable: D1	ML Course - Supervised Learning (part 2)
10	24-Mar	Mon	7	Deep Learning and Cognitive Computing;	ML Course - Supervised Learning (part 3)
11	31-Mar	Mon	8	Prescriptive Analytics: Optimization and Simulation; Project Deliverable: D2	ML Course - Scoring
12	7-Apr	Mon		<b>Exam 2 - Chapters 5 - 8 and RapidMiner (AI Studio)</b>	
13	14-Apr	Mon	9	The Landscape of Software tools and Languages: Project Deliverable: D3	ML Course - Unsupervised Learning (part 1)
14	21-Apr	Mon	10	New A I-Based Trends in Analytics and Data Science;	ML Course - Unsupervised Learning (part 2)
15	28-Apr	Mon	11	Ethical, Privacy and Managerial Considerations in Analytics; Project Deliverable: D4	ML Course - Feature Engineering
16	5-May	Mon		Project Deliverables: D5 and D6	ML Course - Auto Model
<b>Final</b>	<b>12-May</b>	<b>Mon</b>	<b>Finals</b>	<b>Exam 3 - Chapters 9 - 11 and RapidMiner (AI Studio)</b>	ML professional certification test